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BRIEFER ARTICLES.

NOTES ON NORTH AMERICAN GRASSES. V.

SOME TRINIUS PANICUM TYPES.

BELOW are given a few notes upon certain species of Panicum described by TRINIUS from American material. The herbarium of TRINIUS, the father of modern agrostology, is deposited in the St. Petersburg Academy of Sciences. The curator of the herbarium, Dr. D. I. LITWINOW, very kindly sent, for deposit in the National Herbarium, portions of the specimens of the species mentioned in this article. It will be observed that three of the seven species had been described by earlier authors, while four have been recently described as new species. It must be said, however, that it would be impossible to identify any of these four species from the description alone. This is true of many of the earlier descriptions of the group *Dichotoma* of the genus Panicum, and on account of the difficulty of consulting the types of these species, it is in a measure excusable, on the ground of convenience, to describe unidentified species as new, without determining the application of the older names. Such painstaking and laborious comparison should not, however, be shirked by a monographer.

P. CHAMAELONCHE Trin. 1826, Gram. Pan. 242.

Palmare et minus. Panicula (semipollicari) lucidissima; Spiculis pusillis, obovato-oblongis, obtusiusculis, glabris; pedicellis hispidulis; Gluma inferiore flosculis triplo breviori 1-, superiore eosdem aequante 5-nervi; Hermaphrodito elliptico, mucronulato, laevi, neutrum aequante.

V. spp. Am. bor. (TRATTINICK, ex. coll. Enslini).

Plantula caespitosa, stricta, culmo tenuissimo, ramuloso. Folia lanceolata l. lineari-lanceolata, strictiuscula, semipollicaria, glabra; culmea et juniora subinvoluta, acicularia, breviora. Panicula pauciflora, tenera, prodit e summa vagina elongata, cujus folium eandem fere aequat. Flosculus neuter univalvis? Hermaphroditus albescens.

Label accompanying type specimen: "In Am. bor. s. dat. sine nom. ex. hb^{io} Enslini cl. Trattinick."

Specimen=*P. Baldwinii* Nutt. 1898. Scribn. Div. Agros. Bull. 11:43.

P. DEMISSUM Trin. Spec. Gram. **3**:319.

The type specimen is from Rio Janeiro. I have not seen this species from North America. It is mentioned here because the name occurs occasionally in the literature of North American grasses, and has been doubtfully applied to certain of our species.

P. Enslini Trin. 1826, Gram. Pan. 230.

Pedale. Panicula (subdigitali) contractiuscula, lucida; Spiculis subultralinealibus, ellipticis, acutiusculis, pilosulis: pedicellis glabris; Gluma inferiore flosculis sub 4-plo breviori 1-, superiore eosdem vix excedente 7-nervi; Hermaphrodito oblongo, acutiusculo, laevi, neutrum fere aequante.

An *Panicum tenue* Mühlenb. (quod *Pan. liton* Schult. Mant. 2. p. 250) quaerit ill. N. ab Esenb. in litt.

V. spp. Am. bor. (Trattinick, e collect. Enslini.)

Culmus basi ramosus, ad paniculam usque vaginatus: vaginis arctis, fissura pubescentibus. Folia glabra: radicalia lanceolata-oblonga l. ovata, sesquipollicaria, lineas 4–5 lata; superiora lineari-lanceolata, duplolongiora, patentia. Panicula e summa vagina prodit radiis subcapillaribus, parum patulis. Gluma inferior epilis, superior mucronulata cum flosculi neutrius valvula inferiore pilis adspersa. Hermaphroditus albescens.

Label accompanying type specimen: "(an *Pan. tenue* Muhlb. quaerit Nees ab Es.) ab Enslino in Am. bor. l. dt. sine nom. cf. Trattinick Wiennae 1820."

Specimen=*P. equilaterale* Scribn. 1898, Div. Agros. Bull. 11:42.

Characterized by having the spikelets of *P. commutatum* but the leaves elongated and widely spreading.

P. floridanum Trin. 1835, Mem. Acad. Petersb. VI. 3^2:248.

The type specimen from Georgia is *Paspalum racemosum* Nutt.=*P. bifidum* (A. Bertol.) Nash, as has been generally recognized.

P. jejunum Trin. 1836. Bull. Acad. Petersb. **1**:76.

The type specimen from Louisiana sent by Hooker in 1835 is *Panicum hians* Ell.=*Steinchisma hians* (Ell.) Nash.

P. lancearium Trin. 1822, Clavis Agros. 234.

1179. Gr. miliaceum americanum, minus, panicula parva. *Pluk. Phyt.* p. 176. *Tab. 92* f. *6.*

Mor. p. 197. no. 15. Panicum lancearium *m.* (*de quo alio loco*).

Label accompanying specimen: "Plukn. Tb. 92 f. 6.? In Am. bor. ab Enslino l. dt. cl. Trattinick."

Specimen=*P. Nashianum* Scribn. 1897, Div. Agros. Bull. 7:79.

The specimen matches *Curtiss 4029* from Florida, the first specimen cited in the original description of *P. Nashianum.* Both have glabrous spikelets. The second specimen cited by Scribner, *Nash 466*, from Florida (the type on account of the specific name), has pubescent spikelets.

Since Trinius gives a binomial to a plant described by Plukenet and by Morrison under a polynomial designation, Plukenet's plant is the type.

In Kew Index *P. lancearium* is cited as Agrost. Bras. 246. The name is mentioned in that work (NEES, 1829, Agrost. Bras. 226) in a note appended to *P. parvifolium* Lam., where it is referred to *P. angustifolium* Ell. It is quite distinct from ELLIOTT'S species, however.

TRINIUS himself describes the species later as follows (1826, Gram. Pan. 223:)

Spithamaeum. Panicula (vix pollicari) lucidissima; Spiculis parvis, obovatis, glabris: pedicellis scabriusculis; Gluma inferiore flosculis triplo breviori enervi, superiore eosdem aequante 7-nervi; Hermaphrodito oblongo, acutiusculo, laevi, neutrum aequante.

V. spp. Am. bor. (TRATTINICK ex hb^{io} Enslini).

Ima basi in ramos discedit simplices, tenues attamen firmos, satis multi-(sex-)folios. Folia lanceolata, pollicaria, sensim breviora, praesertim basin versus ciliatula. Panicula e summa vagina prodit satis pauciflora, lineari-oblonga. Flosculus neuter bivalis. Hermaphroditus albens.

Since PLUKENET'S figures of this and the next cannot be identified, TRINIUS' specimens should be taken as the substitute type of these two species.

P. LEUCOBLEPHARIS Trin. 1822. Clavis Agrost. 234.

1177. Gr. miliaceum americanum, majus, panicula minore. *Pluk. Phytogr. p.* 176. *Tab.* 92. *f.* 7. *Mant.* p. 95. (*excl. Syn. Sloan. ut. ipse Sloaneus monet*). *Citatur a Gronowio* (Virg. p. 12.) *ad* Pan. paniculatum floribus muticis; *sed quid illud? Figura bene convenit cum Panico quodam herb. notsr. ex Amer. bor.* (Pan. leucoblepharis *m.*) *praeter cilia foliorum elegantissima, rigidiuscula.—Synon. Recchii ap. Pluk. admodum dubium.*

Label accompanying specimens: "ab Enslino in Am. bor. l. dt. cl. Trattinick."

Specimen = *P. ciliatum* Ell. 1816. Sketch 1:126.

Like *P. lancearium* the name is founded upon a figure in PLUKENET and is further described by TRINIUS in Gram. Pan. 219. 1826.

Spithamaeum et minus. Panicula (ultrapollicari) lucida; Spiculis subparvis, obovato-oblongis, pilosulis: pedicellis scabriusculis; Gluma inferiore flosculis plus duplo breviore 3–5, superiore eosdem aequante 7-nervi; Hermaphrodito oblongo, obtusiusculo, scrobiculato-punctato, neutrum aequante.

V. spp. Amer. bor. (TRATTINICK e plantis Enslini).

Basi ramosum. Folia cordato-lanceolata, amplexicaulia, pl. min. pollicaria, pallide viridia (plerumque elegantissime), pectinato-ciliata. Vaginae superiores elongatae. Axis pilosus. Gluma inferior epilis. Flosculus neuter bivalvis.

P. ciliatum is characterized by the ciliate but otherwise glabrous leaves and pubescent spikelets a little less than 2 ^{mm} long.

P. UNCIPHYLLUM Trin. 1826, Gram. Pan. 242.

Spithamaeum-pedale. Panicula (1-sesqui-pollicari) lucidula; Spiculis minimis, oblongis, pilosis: pedicellis glabriusculis; Gluma inferiore flosculis triplo breviori 1-, superiore eosdem aequante 7-nervi; Hermaphrodito elliptico, laevi neutrum aequante.

Panicum laxiflorum Spreng. in Mém. de St. Pétersb. II. p. 291.

Panicum heterophyllum Mühlenb. teste N. ab Es.

V. spp. Am. bor. (TRATTINICK).

Culmus tenuis, adscendens, basi ramosus. Folia, quorum plura basi plerumque confertissima, lineari-lanceolata, cum vaginis pubescentia, pollicaria, lineas 2 lata: superiora angustiora, dissita. Panicula ovata, axis radiisque glabris. Flosculus neuter bivalvis. Hermaphroditus albescens.

Label accompanying type specimen: "Pan. heterophyllum Muhl. (Test. Nees) an Pluckn. Tab. 92 f. 8? ex herb Enslini, spmna Am. bor. Trattinick."

Specimen = *P. columbianum* Scribn. 1897. Div. Agros. Bull. 7:78.

In recent works this name has been applied to a species of the *lanuginosum* group having rather stiff foliage and the leaf blades hirsute on both surfaces. The true *P. unciphyllum* is easily recognized by the short crisp pubescence and the very short ligule, characters not mentioned in the original description.—A. S. HITCHCOCK, *U. S. Dept. Agric., Washington, D. C.*

SPOROGENESIS IN PALLAVICINIA.

THE August number of the BOTANICAL GAZETTE contains a paper by Mr. A. C. MOORE on *Sporogenesis in Pallavicinia.* I regret again to ask for space on this matter, but Mr. MOORE has so completely (though of course inadvertently) misrepresented my own position with regard to the nature and the significance of the quadripolar spindle in the Jungermannieae, and further, the grounds on which he founds his criticism appear to me to be so open to objection, that I venture to ask for an opportunity of replying to his strictures.

Firstly, then, as to the significance attached to the quadripolar spindle in 1894–5.

From Mr. MOORE's account it would seem that I regarded, as the most essential feature of its importance, the simultaneous distribution of the chromosomes of the dividing nucleus of the mother-cell to the four spores that are finally produced.

I certainly believed that in *Pallavicinia decipiens* such a distribution occurred, and that it resulted from the suppression of the period of rest normally intervening between the first and second maiotic divisions. In this I may be right, or further investigations may show that, in the species in question, I missed the binucleate stage, But this is really not the